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Broffman

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(54) **STANDUP PADDLE BOARD CORE ACTIVATOR**

(71) Applicant: **Jeffery Alan Broffman**, Sebastopol, CA (US)

(72) Inventor: **Jeffery Alan Broffman**, Sebastopol, CA (US)

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See application file for complete search history.

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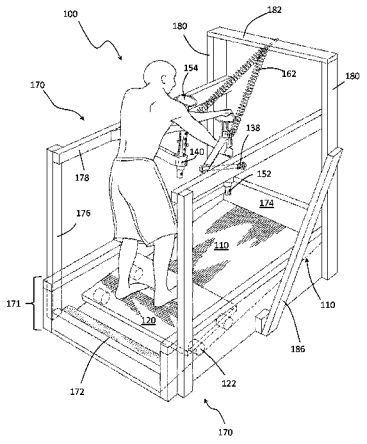
Primary Examiner — Oren Ginsberg
Assistant Examiner — Gregory Winter
(74) *Attorney, Agent, or Firm* — Maier & Maier, PLLC

(57) **ABSTRACT**

A standup paddle board core activator and method of use may include a sloped platform, a sliding footboard, two raised support structures incorporating at least two axles, two rotating arm assemblies, two paddle members with shafts and handles, a tensioner support structure and two tensioners. The sliding footboard may be configured to move along the sloped platform. The rotating arm assemblies may be rotatably attached by axles to raised support structures on either side of the sloped platform. Tensioners may connect to a tensioner support structure and the rotating arm assemblies, applying resistance to the rotation of the arm assemblies about an axis created by the axles. Paddle members may be inserted in the arm assemblies. A user may balance on the footboard, grasp at least one paddle member, and slide the footboard up the sloped platform.

8 Claims, 6 Drawing Sheets



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A63B 21/04	(2006.01)
A63B 21/068	(2006.01)
A63B 23/035	(2006.01)
A63B 23/12	(2006.01)
A63B 21/008	(2006.01)
A63B 23/02	(2006.01)

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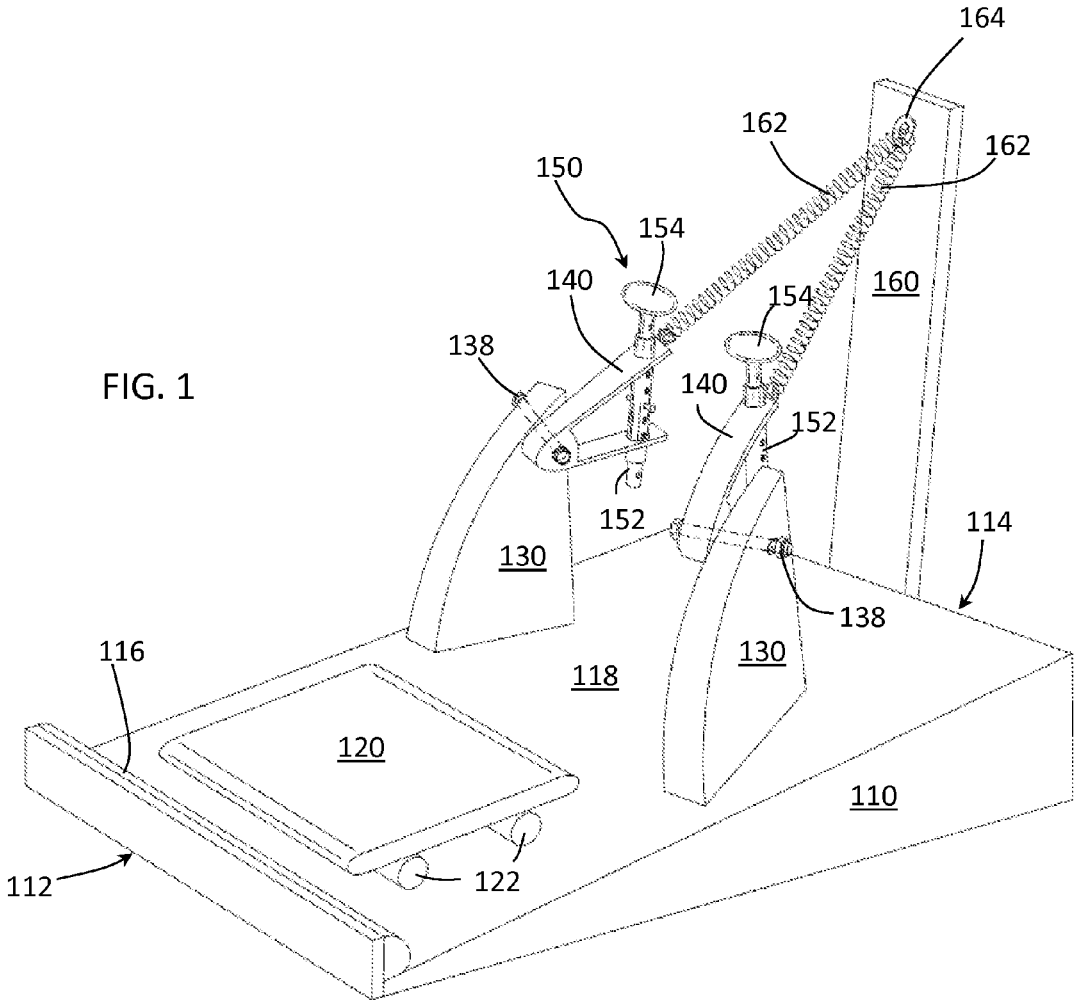
FIG. 1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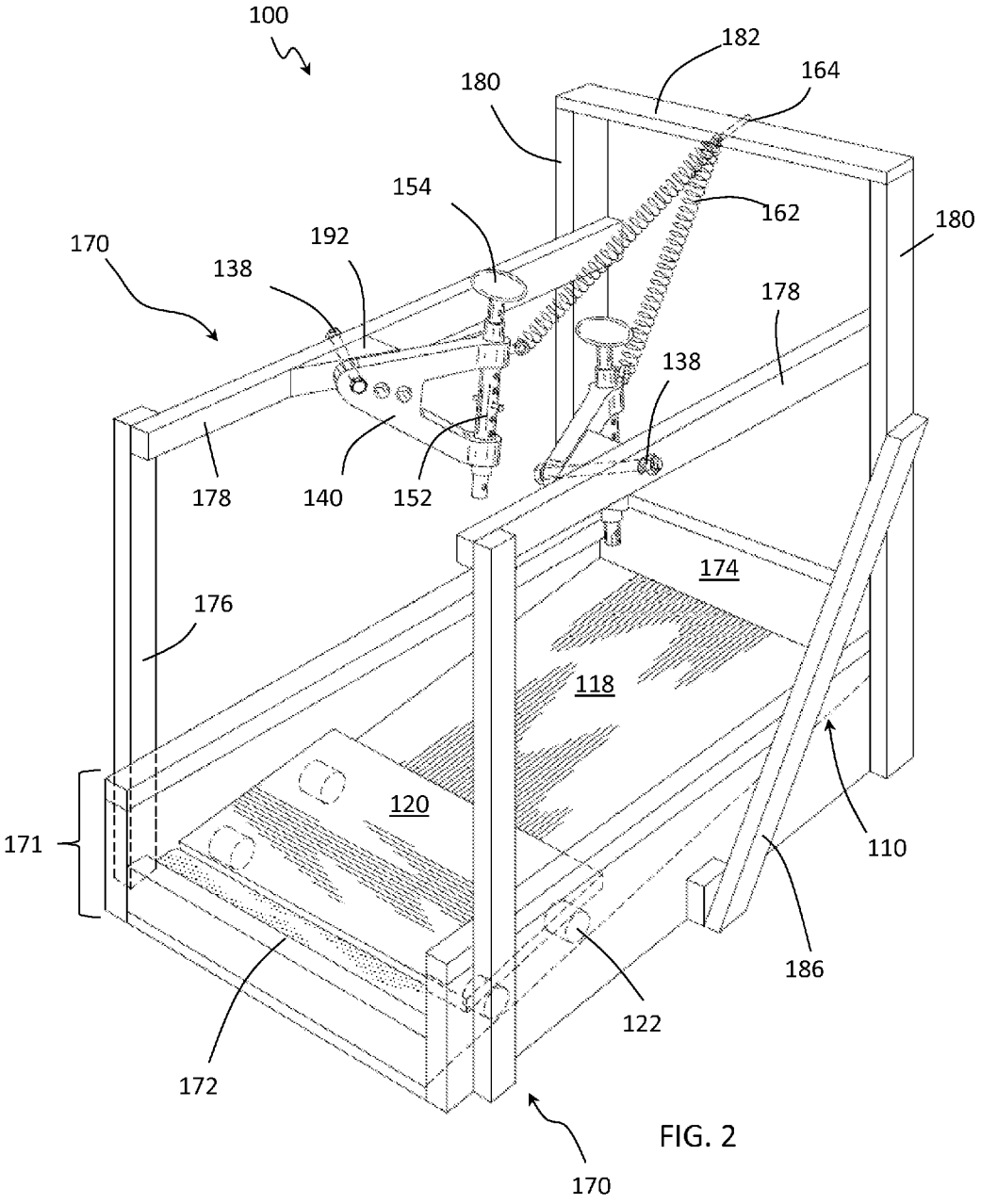
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FIG. 2

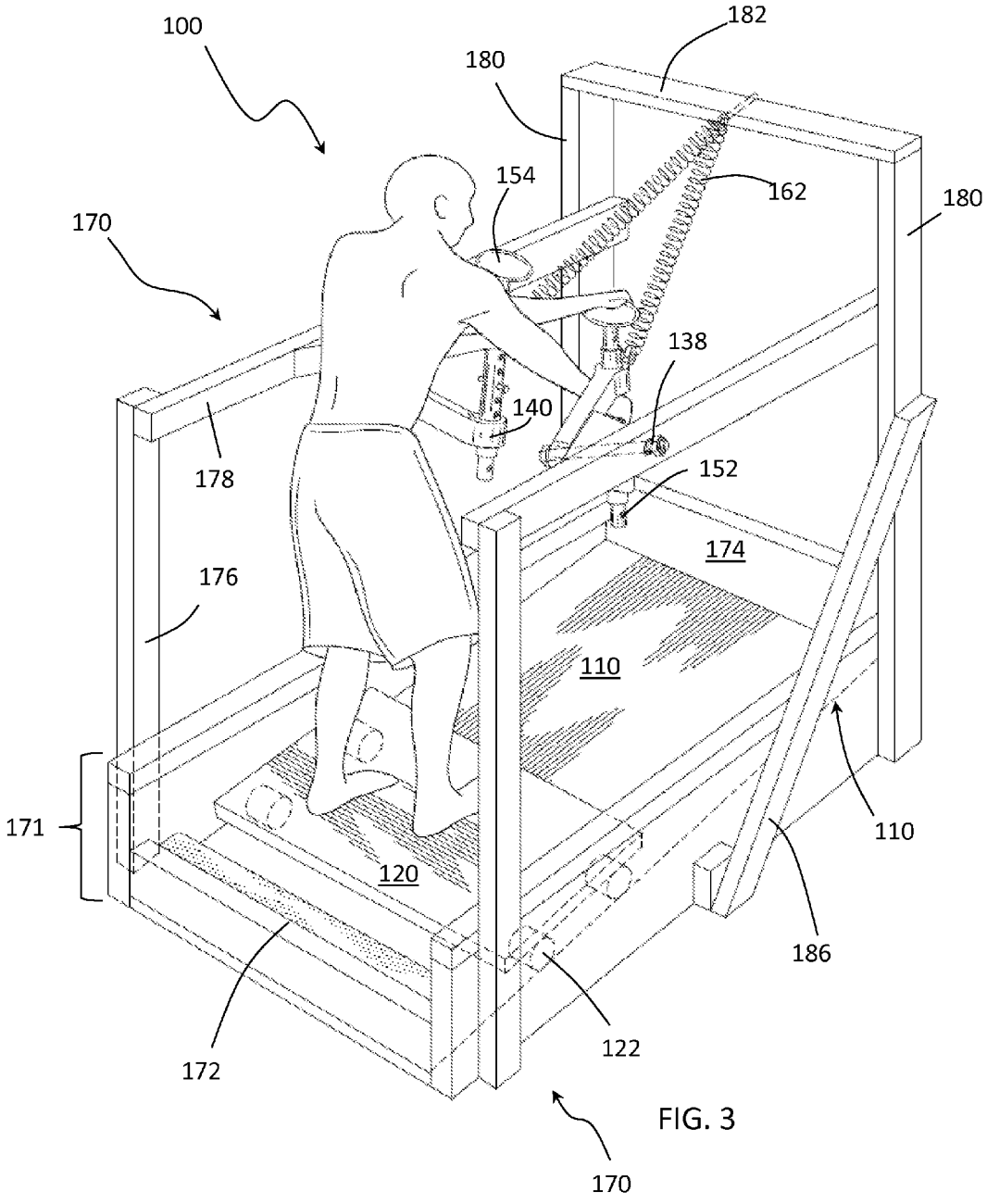
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FIG. 3

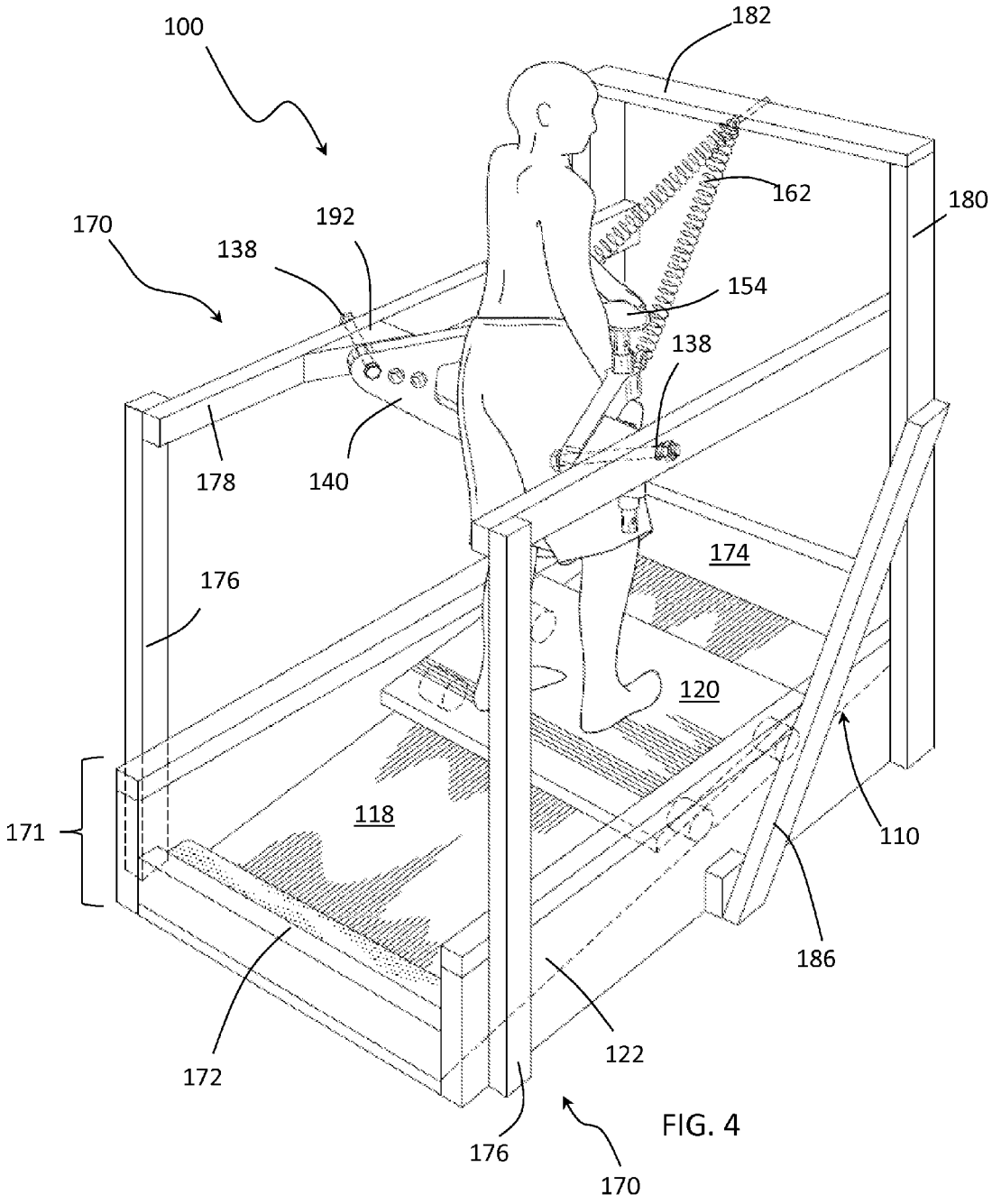
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FIG. 4

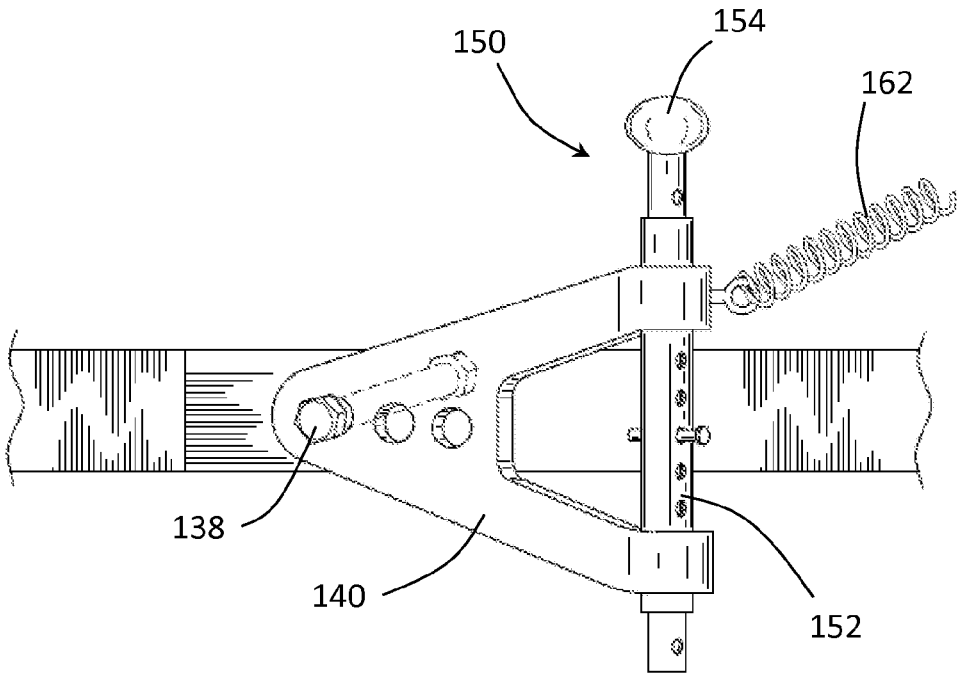

FIG. 5

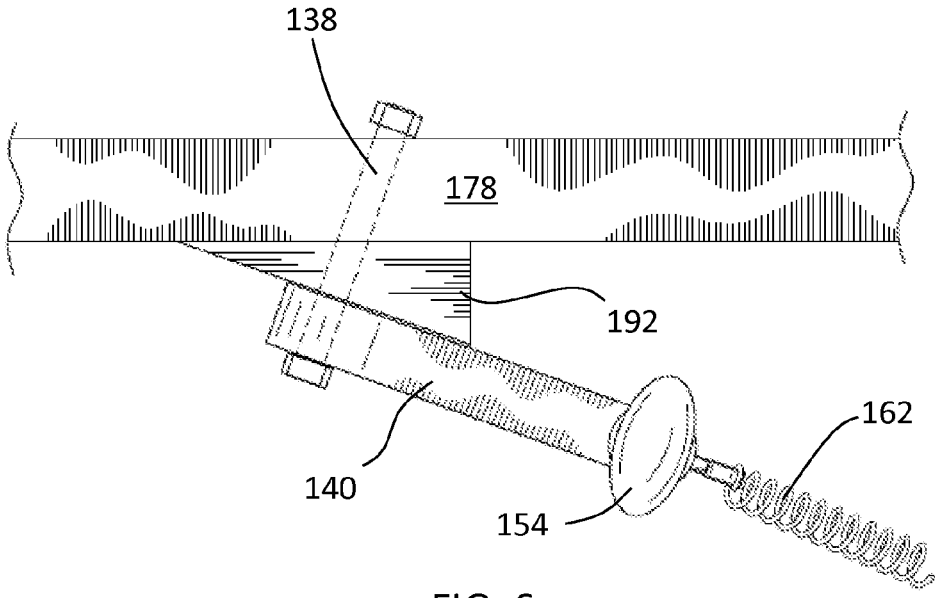

FIG. 6

STANDUP PADDLE BOARD CORE ACTIVATOR

BACKGROUND

Standup paddle surfing, also referred to as standup paddle boarding, is a popular water sport. Standup paddle boards are used for many recreational activities, including exploring bodies of water, racing, riding waves, fishing, yoga, and other forms of exercise. One of its many benefits is excellent abdominal core strengthening.

However, to partake in standup paddle surfing, one must have access to a body of water. Additionally, uncontrollable factors, such as weather must cooperate. These burdens limit a person's ability to enjoy the benefits of standup paddle surfing. Eliminating such burdens would offer the benefits to many more people.

SUMMARY

A standup paddle board core activator may be provided. One embodiment may include a sloped platform, a sliding footboard, two raised support structures, at least two axels, two rotating arm assemblies, two paddle members with shafts and handles, a tensioner support structure and two tensioners. The sliding footboard may be configured to move along the sloped platform. The rotating arm assemblies may be rotatably attached by axles to raised support structures on either side of the sloped platform. Tensioners may connect a tensioner support structure and the rotating arm assemblies, applying resistance to the rotation of the arm assemblies about an axis created by the axles. The paddle members may be adjustably affixed to the arm assemblies.

BRIEF DESCRIPTION OF THE FIGURES

Advantages of embodiments of the present invention will be apparent from the following detailed description of the exemplary embodiments. The following detailed description should be considered in conjunction with the accompanying figures.

Exemplary FIG. **1** shows a perspective view of an exemplary embodiment of a standup paddle board core activator.

Exemplary FIG. **2** shows a perspective view of a second exemplary embodiment of a standup paddle board core activator.

Exemplary FIG. **3** shows a perspective view of a user on an exemplary embodiment of a standup paddle board core activator.

Exemplary FIG. **4** shows a perspective view of a user on an exemplary embodiment of a standup paddle board core activator.

Exemplary FIG. **5** shows a side view of an arm assembly and paddle member.

Exemplary FIG. **6** shows a top view of an arm assembly and paddle member.

DETAILED DESCRIPTION

Aspects of the invention are disclosed in the following description and related drawings directed to specific embodiments of the invention. Alternate embodiments may be devised without departing from the spirit or the scope of the invention. Additionally, well-known elements of exemplary embodiments of the invention will not be described in detail or will be omitted so as not to obscure the relevant details of the invention. Further, to facilitate an understanding of the description discussion of several terms used herein follows.

As used herein, the word "exemplary" means "serving as an example, instance or illustration." The embodiments described herein are not limiting, but rather are exemplary only. It should be understood that the described embodiments are not necessarily to be construed as preferred or advantageous over other embodiments. Moreover, the terms "embodiments of the invention", "embodiments" or "invention" do not require that all embodiments of the invention include the discussed feature, advantage or mode of operation.

According to at least one exemplary embodiment, a standup paddle board core activator device may be provided.

Generally referring to FIG. **1**, an exemplary embodiment of a standup paddle board core activator may include a sloped platform **110**, a sliding footboard **120**, two raised support structures **130**, at least two axels **138**, two rotating arm assemblies **140**, two paddle members **150** with shafts **152** and handles **154**, a tensioner support structure **160** and two tensioners **162**.

Sloped platform **110** may be substantially rectangular and may be configured such that an incline is formed from posterior edge **112** to anterior edge **114**. In an exemplary embodiment, sloped platform **110** may be about **28** inches to about **36** inches wide and approximately **48** inches long. The sloped platform **110** may be sized and shaped in a variety of ways, as would be understood by a person having ordinary skill in the art. Sloped platform **110** may serve as an independent support structure for activator **100**, or alternatively may be configured within a separate frame **170** (shown in FIGS. **2-4**). Sloped platform **110** may be fixed or adjustable. In a fixed embodiment, sloped platform **110** may be substantially wedge shaped and may have a fixed incline. In adjustable embodiments, the incline of sloped platform **110** may be configured to increase or decrease. The mechanism for increasing or decreasing the incline may include a variety of mechanisms as would be known by a person having ordinary skill in the art, such as hydraulics, adjusting pins, adjustable legs, or simply adding or removing material below sloped platform **110**. In exemplary embodiments where sloped platform **110** serves as an independent support structure, sloped platform **110** may have a raised backstop **116**, which may be disposed along posterior edge **112**. Backstop **116** may be configured to retain a footboard **120** on sloped platform **110**. In an exemplary embodiment, backstop **116** may include a rubber bumper for contacting footboard **120**. There may additionally be a stop along anterior edge **114** and sidewalls so as to retain footboard **120** on sloped platform **110**. These retainers may be in addition to a track in platform **110**, or may form a track for footboard **120**.

Footboard **120** may be configured to slide along a top surface **118** of sloped platform **110**. A bottom surface of footboard **120** and top surface of sloped platform **110** may include reduced-friction material, allowing footboard **120** to slide freely on sloped platform **110**. Alternatively, footboard **120** may include wheels **122** configured to facilitate the sliding of footboard **120** on sloped platform **110**. There may be at least one track disposed in sloped platform **110** for guiding footboard **120** or wheels **122**. In yet further embodiments, footboard **120** may be configured to ride along a track disposed in frame **170**. In embodiments where footboard **120** rides along a track in frame **170**, there may be no need for sloped platform **110**.

Gravity may cause the posterior edge of sliding footboard **120** to contact backstop **116** in a resting position. In an

exemplary embodiment, sliding footboard **120** may be approximately 24 inches wide and approximately 18 to approximately 20 inches long. The tracks may allow sliding footboard **120** to travel approximately 12 inches to approximately 24 inches in a forward or backward direction.

Raised support structures **130** may be incorporated in a separate frame **170** or may be disposed on sloped platform **110**. In an exemplary embodiment, raised support structures **130** may be approximately 48 inches high and may be located approximately two thirds of the length of sloped platform **110** from edge **112**. As provided in FIG. **1**, raised support structures **130** may project from a top surface **118** of sloped platform **110**. In such embodiments, sloped platform **110** and raised support structures **130** may be sized and configured so as not to impede the movement of footboard **120**. Alternatively, raised support structures **130** may be attached to the sides of platform **110**. Raised support structures **130** may be utilized to support rotating arm assemblies **140**. Arm assemblies **140** may be rotatably coupled to support structures **130**. In an exemplary embodiment, arm assemblies **140** and support structures **130** may be rotatably coupled by axle **138**. Axle **138** may be inserted through an axle hole in both support structures **130** and arm assemblies **140** and secured by a nut or similar securing device affixed to its distal ends. Alternatively, axle **138** may be affixed in a stationary position in either support structures **130** or arm assemblies **140**. Axle **138** may then be rotatably inserted in an axle hole disposed in the other of the support structures **130** or arm assemblies **140**. A nut or similar securing device may then be affixed to the distal end of axle **138** so as to rotatably couple support structures **130** and arm assemblies **140**. Given that support structures **130** may be affixed to platform **110** or a separate frame, the rotatable coupling may allow arm assemblies **140** to rotate in relation to support structures **130**.

The orientation of axle **138**, support structures **130**, and arm assemblies **140** may be such that arm assemblies **140** rotate about a skewed axis. More specifically, from a user's point of view, axles **138** may extend laterally outward, exiting anteriorly from the starting point. The angle may be approximately 20 degrees in an exemplary embodiment. Axles **138** may also extend along a vertical angle, exiting more superiorly. The vertical angle may also be approximately 20 degrees in an exemplary embodiment. Consequently, the axles may form a skewed axis of rotation such that the arm assemblies **140** rotate downward and outward when used as described below. Support structures **130** may be shaped to facilitate the axis of rotation for arm assemblies **140**. In some alternative embodiments, shims **192** may also be used to provide a desired angle for rotatably affixing arm assemblies **140**.

Arm assemblies **140** may be configured to support paddle members **150**. Paddle members **150** may include a substantially cylindrical shaft portion **152** and a handle portion **154**. In some exemplary embodiments, handle portions **154** may be elongated members orientated substantially parallel to an axis of rotation. In an exemplary embodiment, a simulated height of paddle members **150** may be adjustable by sliding shaft portion **152** through arm assemblies **140**. Shaft portion may be adjustably secured in arm assemblies **140** by a set screw assembly or adjusting pin assembly, wherein shaft portion **152** may have a series of holes disposed perpendicularly to its longitudinal axis that may be configured to align with corresponding holes or gaps in arm assemblies **140** and to receive an adjusting pin.

Activator **100** may include a tensioner support structure **160** disposed proximate an anterior edge **114** of activator **100**/platform **110**. In some exemplary embodiments, tensioner support structure may be incorporated in frame **170**. Tensioners **162** may run from tensioner support structure **160** to arm assemblies **140**, applying force on arm assemblies **140**. The force may hold arm assemblies **140** in a desired orientation at rest and may provide resistance when a user attempts to manipulate arm assemblies **140**. Tensioner support structure **160** may be higher than arm assemblies **140**. This may allow tensioners **162** to hold arm assemblies **140** in a desired orientation. In alternative exemplary embodiments, tensioners **162** may secure to a tensioner support structure or location on frame **170** posterior to arm assemblies **140**. For example, tensioners **162** may connect a top edge of horizontal members **178**, posterior to arm assemblies **140**, with a posterior superior aspect of rotatable arm assemblies **140**. In such an embodiment, tensioners **162** may run above axel **138**, providing upward rotational tension on arm assemblies **140**. Tensioners **162** may include springs, elastic bands, pulley systems, hydraulic actuated tensioners, or the like, as would be understood by a person having ordinary skill in the art. In an exemplary embodiment, tensioners **162** may extend from a central point along the anterior edge of activator **100**. This may facilitate smooth tension along the arm assemblies' skewed axis of rotation. Tensioners **162** may be secured to arm assemblies **140** and frame **170** or tensioner support structure **160** in a variety of ways as would be understood by a person having ordinary skill in the art, such as welding or the use of fasteners including bolts, screws, nails, staples, hooks, straps, ties, and the like.

Referring to exemplary FIGS. **2-4**, a separate frame **170** may be provided. Frame **170** may incorporate backstop **116**, raised support structures **130**, and tensioner support structure **160**. In an exemplary embodiment, frame **170** may include a substantially box-shaped base **171** with a posterior member **172** and an anterior member **174**. A sloped platform **110** may be disposed within base **171**, or a sloped track **192** for footboard **120** may be provided along the side members of base **171**. Posterior member **172** may be configured to function substantially similar to backstop **116**. In some exemplary embodiments, anterior member **174** may be configured to function as a backstop for footboard **120**. In alternative exemplary embodiments, footboard **120** may not travel the full length of frame **170**, preventing footboard **120** from interacting with anterior member **174**. Frame **170** may additionally include posterior vertical support members **176** and anterior vertical support members **180**, which may project upward from the corners of the substantially box-shaped base **171**. Anterior vertical support members **180** may be taller than posterior vertical support members **176**. Horizontal support members **178** may connect a top portion of posterior vertical support members **176** with adjacent anterior vertical support members **180**. In an exemplary embodiment, horizontal support members **178** may be adjustable in a vertical orientation so as to accommodate various users' heights. Arm assemblies **140** may be rotatably secured to horizontal support members **178**. Shims **192** may be used to create a desired orientation of axles **138** to provide the appropriate axis of rotation for arm assemblies **140**. Horizontal support member **182** may connect the tops of anterior vertical support members **180**. Horizontal support member **182** may further serve as a tensioner support structure. Additional support arms **186** may be provided to supply additional strength to frame **170**. In some exemplary embodiments, additional support arms **186** may be manipulated to adjust the slope of platform **110** or track **192**, as would be understood by a person of ordinary skill in the art.

In such an embodiment, support arms **186** may provide at least one rung for supporting platform **110**. Support arms **186** may manipulate the slope of platform **110** by adjusting the at least one rung, or by supporting platform **110** on a different rung.

As shown in exemplary FIGS. **5-6**, arm assemblies **140** may be substantially V-shaped. Arm assemblies **140** may have at least one axle cavity disposed proximate an apex thereof. The at least one axle cavity may be disposed perpendicular to the face of the V-shape. In an exemplary embodiment, there may be multiple axle holes positioned in a line from the apex of the V-shape toward a midpoint in the V-shape so as to allow for adjustment in the radius of rotation and height of the rotatable arm. In an exemplary embodiment, arm assemblies **140** may have paddle shaft receiving holes incorporated in the distal ends of the V-shape. The shaft receiving holes may be configured such that when a paddle shaft **152** is inserted, it connects the distal ends of the V-shape, forming a triangle. In some alternative embodiments, arm assemblies **140** may already be triangular, having paddle shaft receiving brackets disposed at points distal from axle **138**. As would be understood by a person having ordinary skill in the art, other variations on the shape and size of arm assemblies **140** may be used without affecting the functionality of the device. As discussed above, the height of shaft members **152** may be adjusted in an exemplary embodiment. Tensioner **162** may be secured to arm assemblies **140** proximate an anterior end opposite axle **138**. An anterior end may be determined by allowing the arm assembly to hang freely. In an exemplary embodiment, gravity may force the V-shape to hang upside down. Therefore an anterior end opposite axle **138** would be the end of the V-member closest to the anterior edge **114** of activator **100**. When tensioner **162** is connected, force may be applied on arm assembly **140** such that paddle member **150** is held in vertical orientation. Paddle member **150** may be inserted such that handle member **154** is on top, leaving paddle member **150** in an upright orientation.

An exemplary embodiment of activator **100** may operate as follows. A user may adjust the incline of sloped platform **110** or the footboard **120** track in frame **170** to a desired level. The user may also adjust the tension of tensioners **162** to a desired level. The user may then stand in a balanced position on sliding footboard **120**. In an exemplary balanced position, the user may position his or her feet approximately shoulder width apart. The feet may be approximately the same depth along the length of footboard **120**, or alternatively, one foot may be in a more forward or backward position. Variations to stance may be used to exercise different muscles.

The user may grasp a handle **154** with an opposite hand using an overhand grip. For example, the user may grasp the handle **154** on the left side of core activator **100** with the user's right hand. The user may then grasp the shaft member **152** on the same side as the grasped handle **154** with the user's other hand. The shaft member **152** may be grasped at a comfortable height. In an exemplary embodiment, this may be approximately 18 to approximately 24 inches below the handle **154**. The user may then slide the footboard **120** upward along the track or platform **110**. This may predominantly utilize the user's abdominal muscles. Pressure applied by the user on handle **154** and shaft **152** may cause handle assembly **140** to rotate downward, backward, and outward along the skewed axis. With the resistance from tensioner **162**, the arm assembly **140** may rotate approximately ⅛ to approximately ¼ of a rotation. This may utilize the user's deltoid and latissimus dorsi musculature. The user may slide the footboard **120** approximately 12 to approximately 24 inches along the slope. Once footboard **120** has stopped its forward progress, the user may allow the activator **100** to return to its starting position, facilitated by gravity and the force of tensioners **162**. This process may be repeated and may be performed using either side (either arm/handle assembly).

Variations on the functionality may be contemplated. For example, changes in stance and orientation may focus exercise on different muscle groups. In at least one variation, a user may rest both forearms on a top edge of arm assemblies **140** or grasp handles **154** with each respective hand (right handle with right hand, etc.). The user may then slide footboard **120** along the slope without the upper body twist utilized when a right hand grasps the left handle **154**.

The foregoing description and accompanying figures illustrate the principles, preferred embodiments and modes of operation of the invention. However, the invention should not be construed as being limited to the particular embodiments discussed above. Additional variations of the embodiments discussed above will be appreciated by those skilled in the art.

Therefore, the above-described embodiments should be regarded as illustrative rather than restrictive. Accordingly, it should be appreciated that variations to those embodiments can be made by those skilled in the art without departing from the scope of the invention as defined by the following claims.

What is claimed is:

1. A standup paddle board core activator device comprising:

a footboard configured to slide along one of a sloped surface, a track, or a reduced friction material to facilitate a sliding footboard;

a raised support structure;

at least one arm assembly rotatably secured to a first member of the raised support structure wherein the at least one arm assembly has at least one axle extending laterally outward and at a vertical angle, the at least one arm assembly configured to rotate about a skewed axis of rotation of the at least one axle relative to a horizontal and vertical axis of the first member of the raised support structure;

at least one tensioner extending from the at least one arm assembly to a tensioner support structure; and

at least one paddle member affixed to the arm assembly, wherein the paddle member further comprises a shaft portion and handle portion.

2. The device of claim **1**, wherein the raised support structure and tensioner support structure are incorporated in an exterior frame.

3. The device of claim **1**, further comprising at least one wheel to facilitate sliding of the footboard along one of the sloped surface or track.

4. The device of claim **1**, further comprising a backstop configured to retain the footboard on the sloped surface or track, wherein the backstop is made of rubber.

5. The device of claim **1**, wherein an angle of incline of the sloped surface, track, or reduced friction material is adjustable.

6. The device of claim **1**, wherein the height of the at least one paddle member with relation to the at least one arm assembly is adjustable.

7. A method of exercising comprising:

providing a standup paddle board core activator device, wherein the device comprises a footboard configured to slide along one of a sloped surface or track, a raised

support structure, at least one arm assembly rotatably secured to the raised support structure, at least one tensioner extending from the at least one arm assembly to a tensioner support structure, and

at least one paddle member affixed to the arm assembly, wherein the at least one paddle member further comprises a shaft portion and handle portion;

standing on the footboard facing substantially forward with feet approximately shoulder width apart;

reaching with one hand across a user's body to grasp the handle portion of the at least one paddle member of the device on an opposite side of the user's body;

grasping the shaft member below the handle member with the user's free hand;

sliding the footboard up the sloped platform or track;

allowing gravity to return the footboard to a resting position;

simultaneously allowing the at least one tensioner to return the at least one arm assembly and the at least one paddle member to a resting orientation; and

repeating as desired.

8. A method of exercising comprising:

providing a standup paddle board core activator device, wherein the device comprises a footboard configured to slide along one of a sloped surface or track, a raised support structure, two arm assemblies rotatably secured to the raised support structure, a tensioner extending from each of the two arm assemblies to a tensioner support structure, and a paddle member affixed to each arm assembly, wherein the paddle member further comprises a shaft portion and handle portion;

standing on the footboard facing substantially forward with feet approximately shoulder width apart;

reaching at least one hand forward such that one's forearms rest along a top surface of each arm assembly, respectively;

grasping at least one of the handle portions with at least one hand, respectively;

sliding the footboard up the sloped platform or track;

allowing gravity to return the footboard to a resting position;

simultaneously allowing the tensioners to return the arm assemblies and paddle member to a resting orientation; and

repeating as desired.

* * * * *